

## ABSTRACT

A self-adaptive voltage regulator for a phase-locked loop is disclosed. The phase-locked loop includes a phase detector, a charge pump, a low pass filter, and a voltage control oscillator, wherein the low pass filter inputs a control voltage to a voltage controlled oscillator for generation of an output clock. According to the method and system disclosed herein, the self-adaptive voltage regulator is coupled to an output of the low pass filter for sensing the control voltage during normal operation of the phase-locked loop, and for dynamically adjusting the supply voltage, which is input to the voltage controlled oscillator in response to the control voltage, such that the phase-locked loop maintains the control voltage within a predefined range of a reference voltage.